UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
ANWAR, MOHAMMAD S

ART UNIT	PAPER NUMBER
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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 January 2010</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-25</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-25</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail. Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments with respect to claims 1-24 have been considered
but are moot in view of the new ground(s) of rejection. Please see response
below:

          In response to applicant arguments, Additionally, the Chapman reference
fails to disclose whether the queued data units include the congestion information
(this is not a congestion stamp, as the data unit is not provided with the
information to signify congestion but to confer a particular status on the data
unit). Also, Chapman does not disclose a congestion notification if no data
units contain the information, nor does Chapman prevent a congestion
notification (see newly cited reference Hadi-Salim et al. disclose congestion
existence bit to indicate prior congestion)

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35
U.S.C. 102 that form the basis for the rejections under this section made in this
Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section
> 122(b), by another filed in the United States before the invention by the applicant for patent or
> (2) a patent granted on an application for patent by another filed in the United States before
> the invention by the applicant for patent, except that an international application filed under
> the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an
> application filed in the United States only if the international application designated the United
> States and was published under Article 21(2) of such treaty in the English language.

1.   Claims 1, 3, 5, 12, 14, 15, 17 and 24 are rejected under 35 U.S.C. 102(e)

as being anticipated by Hadi-Salim et al. (U.S. Patent No. 6,625,118 B1).

      For claims 1 and 14, Hadi-Salim et al. disclose a method of controlling a

queue buffer arranged to queue data units received over a communication

network (see column 5 lines 42-45, queue), comprising: invoking a congestion

notification procedure under a predetermined condition, wherein said congestion

notification procedure comprises determining whether one or more of said

queued data units contains a predetermined congestion notification prevention

information (see column 7 lines 45-46, CE bit), performing a congestion

notification with respect to the one or more queued data units if no queued data

units contain said predetermined congestion notification prevention information

(see column 7 lines 49-53) and preventing a performance of a congestion

notification at least with respect to said the one or more queued data units

containing said predetermined information (see Figure 5B, CE bit is

predetermined information set to identify congestion, packets are discarded if CE

bit is set and thus preventing sending any more congestion, otherwise a process

in Figure 5A is followed for marking packets in the Queue which has no CE bit

set and need congestion notification) and belonging to a same flow (see column

7 lines 57-58, counter reflects the congestion notifications of flows) as said

queued data units (see column 7 lines 45-58).

      For claims 3 and 15, Hadi-Salim et al. disclose wherein if the one or more

queued data units contain said predetermined information (see Figure 5B (270),

CE bit), performance of congestion notification with respect to any queued data

units is prevented (see Figure 5B (270), CE bit with packets being dropped)

For claims 5 and 17, Hadi-Salim et al. disclose determining whether a

flow of data units is[:] either application limited, coming to an end or one or more

data units of the flow of data units fulfills a congestion notification prevention

condition (see Figure 5B (270), congestion existence bit is set or not in the

flows), and if the flow of data units is application limited, the flow is ending or said

one or more data units of said flow fulfills said congestion notification prevention

condition, setting the predetermined congestion notification prevention

information in at least said one or more data units of said flow (see column 7

lines 8-12).

For claims 12 and 24, Hadi-Salim et al. disclose wherein said

predetermined congestion notification prevention information is a single bit (see

column 6 line 28, CE bit).

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

3.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1,

148 USPQ 459 (1966), that are applied for establishing a background for

determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

>   1.   Determining the scope and contents of the prior art.
>   2.   Ascertaining the differences between the prior art and the claims at
>   issue.
>   3.   Resolving the level of ordinary skill in the pertinent art.
>   4.   Considering objective evidence present in the application indicating
>   obviousness or nonobviousness.

4.   This application currently names joint inventors. In considering

patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that

the subject matter of the various claims was commonly owned at the time any

inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor

and invention dates of each claim that was not commonly owned at the time a

later invention was made in order for the examiner to consider the applicability of

35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35

U.S.C. 103(a).

5.   Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Hadi-Salim et al. in view of Sindhu et al. (U.S. Patent No. 7,359,321 B1).

        For claim 2, Hadi-Salim et al. disclose all the subject matter but fails to

mention wherein said performing of said congestion notification with respect to a

given data unit comprises one of dropping said given data unit and marking said

given data unit with a congestion notifier. However, SIndhu et al. from a similar

field of endeavor disclose wherein said performing of said congestion notification

with respect to a given data unit comprises one of dropping said given data unit

and marking said given data unit with a congestion notifier (see Figure 11B,

column 2 lines 40-47, a process of marking a packet with congestion notifier or

dropping a packet). Thus, it would have been obvious to one ordinary skill in the

art at the time of invention was made to include Sindhu et al. dropping and

marking scheme into Hadi-Salim et al. congestion notification scheme. The

method can be implemented in an ECN/drop logic. The motivation of doing this to

provide congestion control (see column 2 lines 40-51).

6.   Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hadi-Salim et al. in view of Thoo et al. (E.P. No. 0,955,749

A1).

        For claims 6 and 18, Hadi-Salim et al. disclose all the subject matter but

fails to mention wherein said step of determining whether a congestion

notification prevention condition is fulfilled comprises the analyzing of higher

layer information. However, Thoo et al. from a similar field of endeavor disclose

wherein said step of determining whether a congestion notification prevention

condition is fulfilled comprises the analyzing of higher layer information (see

paragraph 78 lines 1-20). Thus, it would have been obvious to one ordinary skill

in the art at the time of an invention was made to include Thoo et al. analyzing

scheme into Hadi-Salim et al. flow control scheme. The method can be

implemented in a router or terminal. The motivation of doing this is to control flow

control accurately and achieve high throughput and less congestion (see

paragraph 12 lines 1-4).

7.   Claims 7-9 and 19-21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hadi-Salim et al. in view of Li et al. (U.S. Patent No. 6,741,555

B1).

        For claims 7 and 19, Hadi-Salim et al. disclose all the subject matter but

fails to mention wherein said congestion notification prevention condition

comprises an indication that the flow of data units is coming to an end. However,

Li et al from a similar field of endeavor disclose wherein said congestion

notification prevention condition comprises an indication that the flow of data

units is coming to an end (see column 7 lines 22-23. FIN).Thus, it would have

been obvious to one ordinary skill in the art at the time of invention was made to

include Li et al. signaling scheme into Hadi-Salim et al. congestion scheme. The

method can be implemented in a packet. The motivation of doing this is to supply

information specific to protocol (see column 7 lines 2-4).

        For claims 8 and 20, Hadi-Salim et al. disclose all the subject matter but

fails to mention wherein said congestion notification prevention condition

comprises an indication that flow of data units is application limited. However, Li

et al. from a similar field of endeavor disclose wherein said congestion

notification prevention condition comprises an indication that flow of data units is

application limited (see column 7 lines 8-10). Thus, it would have been obvious to

one ordinary skill in the art at the time of invention was made to include Li et al.

signaling scheme into Hadi-Salim et al. congestion scheme. The method can be

implemented in a packet. The motivation of doing this is to supply information

specific to protocol (see column 7 lines 2-4).

   For claims 9 and 21, Hadi-Salim et al. disclose all the subject matter but

fails to mention wherein said congestion notification prevention condition

comprises an indication that said one or more data units of said flow carry

predetermined signaling identifiers. However, Li et al. from a similar field of

endeavor disclose wherein said congestion notification prevention condition

comprises an indication that said one or more data units of said flow carry

predetermined signaling identifiers (see column 7 lines 20-22). Thus, it would

have been obvious to one ordinary skill in the art at the time of invention was

made to include Li et al. signaling scheme into Hadi-Salim et al. congestion

scheme. The method can be implemented in a packet. The motivation of doing

this is to supply information specific to protocol (see column 7 lines 2-4).

8.   Claims 10, 11, 22 and 23 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hadi-Salim et al. in view of Brothers et al. (U.S. Patent No.

6,822,955).

   For claims 10 and 22, Hadi-Salim et al. disclose all the subject matter but

fails to mention wherein said data unit sender is part of a proxy server. However,

Brothers et al. from a similar field of endeavor disclose wherein said data unit

sender is part of a proxy server (see Figure 1 (20)). Thus, it would have been

obvious to one ordinary skill in the art at the time of invention was made to include Brothers et al. proxy server scheme into Hadi-Salim et al. congestion control scheme. The method can be implemented in a server or a router or a switch. The motivation of doing this is to use proxy server to establish communication between a device in a first network and a destination device having an arbitrary address on a second network outside of the first network. The method includes the step of generating an address resolution protocol packet to identify the arbitrary address of the destination device (see column 2 lines 5-11).

For claim 11 and 23, Hadi-Salim et al. disclose all the subject matter but fails to mention wherein said proxy server is connected to a mobile communication network and arranged for receiving data units from a sending end point outside of said mobile communication network and relaying said data units to a receiving end point connected to said mobile communication network. However, Brothers et al. from a similar field of endeavor disclose wherein said proxy server is connected to a mobile communication network and arranged for receiving data units from a sending end point outside of said mobile communication network and relaying said data units to a receiving end point connected to said mobile communication network (see column 3 lines 52-65). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Brothers et al. proxy server scheme into Hadi-Salim et al. flow control scheme. The method can be implemented in a server or router. The motivation of doing this is to use proxy server to establish communication between a device in a first network and a destination device

having an arbitrary address on a second network outside of the first network. The

method includes the step of generating an address resolution protocol packet to

identify the arbitrary address of the destination device (see column 2 lines 5-11).

9.   Claims 13 and 25 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hadi-Salim et al. in view of Agrawal et al. (U.S. Patent No.

7,006, 440).

     For claims 13 and 25, Hadi-Salim et al. disclose all the subject matter but

fails to mention wherein said predetermined congestion notification prevention

information is a data unit count-down value that counts down the number of data

units remaining in the flow. However, Agrawal et al. from a similar field of

endeavor disclose wherein said predetermined congestion notification prevention

information is a data unit count-down value that counts down the number of data

units remaining in the flow (see Figure 5 (94), packet counter with drop/pass

packet).Thus, it would have been obvious to one ordinary skill in the art at the

time of invention was made to include Agrawal et al. counter scheme into Hadi-

Salim et al. congestion scheme. The method can be implemented in a packet

device. The motivation of doing this is to control buffers based on priority (see

column 2 lines 35-36).

Conclusion

     Any inquiry concerning this communication or earlier communications from

the examiner should be directed to MOHAMMAD ANWAR whose telephone

number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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